

Tupper seminar

Tuesday, July 8, noon seminar speaker will be Egbert G. Leigh, Jr., STRI **The forest and the weather coast hierarchies, egalitarianism and productivity**

Bambi seminar

Thursday, July 10, Bambi seminar speaker will be Beth King, STRI **A million kids study BCI: The JASON Project**

Arrivals

Daniel Dvoretz, University of Utah, July 7 - Jul 7, 2004, to work with Phyllis Coley, on BCI.

Fernando Santos-Granero, STRI, July 9, returns to Panama after an extended stay at SI, Washington DC.

Wayne Sousa and assistants Todd Jones, Matthew Green, Joseph Sapp and Marissa Hirst, University of California at Berkeley, Jul 9-31, to study patterns and mechanisms of canopy tree regeneration in a Caribbean mangrove forest, at Galeta.

Thirty-five JASON teachers, Jul 1 - Aug 1, to visit STRI sites and other points of interest, lead workshops for local teacher trainers and participate in training local teachers on the JASON curriculum 2003-2004 based on STRI research and researchers in Panama.

Hamilton Farris, Louisiana State University, Jul 11-22, to study auditory grouping in the Túngara frog: the roles of complex call components in "what" and "where" decisions, in Gamboa.



Smithsonian Tropical Research Institute, Panamá

www.stri.org

July 4, 2003

STRI celebrates natural resources month

Thirty-two STRI employees participated in an activity to plant Bougainvilleas in the STRI arboretum on Roosevelt Avenue, Ancon, to celebrate June, month of renewable natural resources, on Friday, June 27th. One Panama tree (*Sterculia apetala*), a mango (*Mangifera indica*), an avocado (*Persea americana*) and others were also planted. All new plants were identified with plaques. This activity is part of a new initiative by the STRI community under the leadership of comptroller Leopoldo León, to plant other species of plants and trees, built a cascade with a natural pool, attract birds and insects, and establish a butterfly garden with orchids, bromeliads, etc. The arboretum will receive recyclable matter to be used as natural fertilizer. The Corotú Cafeteria is already participating with organic matter for the improvement of the arboretum's soil. Those interested in visiting the arboretum or be involved in this new initiative, please e-mail striboreto@tivoli.si.edu.



Adriana Bilgray Georgina de Alba

Treinta y dos empleados de STRI participaron en una "Siembra de Veraneras" en el arboreto de STRI en Avenida Roosevelt, Ancón, para celebrar Junio, mes de los recursos naturales renovables, el viernes, 27 de junio. También se sembraron un árbol Panamá (*Sterculia apetala*), un mango (*Mangifera indica*), un aguacate (*Persea americana*) y otros. Todas las plantas nuevas fueron identificadas con placas. Esta actividad es parte de una iniciativa de la comunidad de STRI liderada por Leopoldo León, para sembrar nuevas especies de árboles y plantas, construir una cascada y una piscina natural, atraer aves e insectos, y establecer un jardín de mariposas con orquídeas, bromelias, y plantas trepadoras. El arboreto recibirá materiales reciclables para abono natural. La Cafetería Corotú ya está participando con material orgánico para mejorar el suelo del arboreto. Interesados en visitar el arboreto o participar en esta iniciativa favor enviar correo a: striboreto@tivoli.si.edu. Visitas guiadas miércoles y viernes, 12:30pm. Abierto 6am-6pm de lunes a viernes.



Audrey Smith



Departures

Héctor Guzmán, Jul 5-30, to Venezuela, on vacation with his family.

Mireya Correa, Jul 6-10, to Brasilia, at the invitation of the Latin American web to attend their meetings to present a proposal for the herbarium of the University of Panama.

Eldredge Bermingham, Jul 7-24, to South Africa, to attend the South African Society for Systematic Biology workshop.

New publications

Buhrnheim, Motta, and Cox Fernandes, Cristina. 2003. Structure of fish assemblages in Amazonian rainforest streams: Effects of habitats and locality. *Copeia* 2003(2): 255-262.

Eberhard, William G., and Cordero, Carlos. 2003. Sexual conflict and female choice. *Trends in Ecology and Evolution*.

Van Bael, Sunshine A., Brawn, Jeffrey D., and Robinson, Scott K. 2003. Birds defend trees from herbivores in a Neotropical forest canopy. *Proceedings of the National Academy of Sciences* 100(4): 8304-8307.

Wysor, Brian, and De Clerck, O. 2003. An updated and annotated list of marine brown algae (Phaeophyceae) of the Caribbean coast of the Republic of Panama. *Botanica Marina* 46: 151-160.

Miscellaneous

For rent: apartment in Gamboa, 2-broom. Interested please contact Mark Wishnie at mark.wshnie@yale.edu or tel. 212-8179.

Birds defend trees: Van Bael

The *Proceedings of the National Academy of Sciences (PNAS)* published an article by Sunshine A. Van Bael, STRI visiting scientist from the University of Illinois at Urbana, former STRI fellow Jeffrey D. Brawn, and Scott K. Robinson, both from the University of Illinois, on how birds defend trees in the Panamanian forests (100: 8304-8307). They discovered that birds, especially native ones during the rainy season, protect trees by reducing the numbers of leaf-eating insects. Van Bael's research was done using the STRI's canopy crane access system that allows for repeated observations of branches accessible or inaccessible to birds, demonstrating how they provide for the health of the forest, cleaning herbivores off the trees. Three tree species were involved in the study: *Anacardium excelsum*, *Cecropia longipes* and *Cecropia peltata*. Van Bael has been funded by the National Zoo's Migratory Bird Center, to evaluate plantations of cacao plants, as potential habitats for migratory birds, which have been losing their habitats to deforestation in the region. According to her, herbivore activity itself isn't a huge problem for the cacao production, but fungal disease, often carried by arthropods, is its



biggest challenge. By attracting more migratory birds, their numbers on the plantations could be increased and they would have a job to do. The findings of the study published by *PNAS* give strength to the argument that natural controls of insect and arthropod populations are always advantageous and cheaper.

La revista *Proceedings of the National Academy of Sciences (PNAS)* publicó un artículo por Sunshine A. Van Bael, investigadora en STRI de la Universidad de Illinois en Urbana, Jeffrey D. Brawn, ex-becario de STRI, y Scott K. Robinson, ambos de la Universidad de Illinois, sobre cómo las aves defienden los árboles en los bosques panameños (vol. 100, pp. 8304-8307). Ellos han descubierto que las aves, especialmente las nativas durante la estación lluviosa, protegen los árboles al reducir el número de insectos que se alimentan de sus hojas. Van Bael realizó sus investigaciones usando el sistema de STRI de grúas de acceso al dosel, que permite observar repetidamente las ramas en donde las aves pueden o no llegar, demostrando cómo éstas ayudan a la salud del bosque limpiado los árboles de herbívoros. Tres especies de árboles se utilizaron en este estudio: *Anacardium excelsum*, *Cecropia longipes* and *Cecropia peltata*. El Centro de Aves Migratorias del Zoológico Nacional del Smithsonian ha otorgado fondos a Van Bael para evaluar plantaciones de cacao como posibles hábitats de aves migratorias, víctimas de la deforestación en la región. Según ella, los herbívoros por sí mismos no son gran problema para la producción de cacao, pero los hongos, transmitidos por artrópodos, sí son un gran reto. Al atraer más aves migratorias aumentaría su número en las plantaciones que tendrían un trabajo que hacer. Los descubrimientos publicados por *PNAS* refuerzan el argumento de que los controles naturales de poblaciones de insectos y artrópodos siempre son más ventajosos y económicos.



Sunshine Van Bael, inside a gondola attached to a STRI canopy crane, monitors insect damage to leaves high in a Panamanian forest. (Photo by Michael Libsch)

Sunshine Van Bael dentro de una góndola de la grúa del dosel de STRI monitorea el efecto de los insectos en las hojas de árboles en bosques panameños.

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Caterpillar feeding on a *Cecropia* leaf in the forest canopy in Panama. The caterpillar is among the many insects "cleaned" off leaves by birds. (Photo by Sunshine A. Van Bael)

Oruga alimentándose de una hoja de *Cecropia* en un bosque panameño. La oruga es uno de los muchos insectos que las aves remueven de las hojas de los árboles.